

WHAT IS CLAIMED IS:

1. An optical disc recording apparatus comprising:

an optical pickup which applies a laser beam of substantially constant power to an optical disc;

5 a rotating section which rotates the optical disc at a substantially constant speed;

a feeding section which moves the optical pickup by a movement distance in a radial direction of the optical disc;

10 a detecting section which detects a radial position of the optical pickup with respect to the optical disc; and

a movement distance controlling section which changes the movement distance set in the feeding section in accordance with the radial position of the optical pickup detected by the detecting section.

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2. The optical disc recording apparatus according to claim 1, wherein a rotation number of the optical disc rotated by the rotating section is controlled by the rotation controlling section to be substantially constant.

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3. The optical disc recording apparatus according to claim 1, wherein the power of the laser beam is controlled by a laser power controlling section to be substantially constant.

25 4. The optical disc recording apparatus according to claim 1, wherein the feeding section moves the optical pickup each time when the optical disc is rotated once by the rotating section.

5. The optical disc recording apparatus according to claim 1, wherein the movement distance controlling section changes the movement distance set in the feeding section, to be

5 further reduced in a stepwise manner as the radial position of the optical pickup is further moved from an inner peripheral side of the optical disc toward an outer peripheral side.

6. The optical disc recording apparatus according to claim 1  
10 further comprising a storage section which stores feed management information for forming an image of a density which is uniform over a substantially whole area of the optical disc, and for obtaining the movement distance from the radial position of the optical pickup,

15 wherein the movement distance controlling section obtains the movement distance based on the radial position of the optical pickup that is detected by said detecting section, and the feed management information.

20 7. The optical disc recording apparatus according to claim 1, wherein the optical disc recording apparatus forms an image on the optical disc in accordance with image data with using the optical pickup, the rotating section, the feeding section, the detecting section and the movement distance controlling  
25 section.

8. A optical disc recording apparatus comprising:  
an optical pickup which applies a laser beam of

substantially constant power to an optical disc;

a rotating section which rotates the optical disc at a substantially constant speed;

5 a feeding section which, each time when the optical disc is rotated with a number of rotations by the rotating section, moves the optical pickup by a movement distance in a radial direction of the optical disc;

a laser beam irradiation position controlling section which, when the optical disc is rotated with the preset number  
10 of rotations by the rotating section, changes an irradiation position of the laser beam so that the laser beam is moved along a different laser irradiation locus on the optical disc in each rotation;

a detecting section which detects a radial position of  
15 the optical pickup with respect to the optical disc; and

a rotation number controlling section which changes the rotation number set in the feeding section in accordance with the radial position of the optical pickup detected by the detecting section.

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9. The optical disc recording apparatus according to claim 8, wherein a rotation number of the optical disc rotated by the rotating section is controlled by the rotation controlling section to be substantially constant.

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10. The optical disc recording apparatus according to claim 8, wherein the power of the laser beam is controlled by a laser power controlling section to be substantially constant.

11. The optical disc recording apparatus according to claim  
8, wherein the optical disc recording apparatus forms an image  
on the optical disc in accordance with image data with using  
5 the optical pickup, the rotating section, the feeding section,  
the detecting section and the movement distance controlling  
section.

12. A method of forming an image on an optical disc  
10 comprising steps of:  
rotating the optical disc at substantially constant  
speed;  
applying a laser beam of substantially constant power to  
the optical disc by an optical pickup;  
15 moving the optical pickup by a movement distance in a  
radial direction of the optical disc; and  
changing the movement distance in accordance with the  
radial position of the optical pickup on the optical disc.

20 13. A method of forming an image on an optical disc  
comprising steps of:  
rotating the optical disc at substantially constant  
speed;  
applying a laser beam of substantially constant power to  
25 the optical disc by an optical pickup;  
moving the optical pickup in a radial direction of the  
optical disc each time when the optical disc is rotated with a  
number of rotations;

changing an irradiation position of the laser beam so that, when the optical disc is rotated with the number of rotations, the laser beam is moved along a different laser irradiation locus on the optical disc in each rotation; and

5 changing the number of rotations in accordance with the radial in accordance with the radial position of the optical pickup on the optical disc.

14. An optical disc including a heat-sensitive layer in which  
10 an image is formed by discoloring the heat-sensitive layer, the image being formed by the steps of:

rotating the optical disc at substantially constant speed;

15 applying a laser beam of substantially constant power to the optical disc by an optical pickup;

moving the optical pickup by a movement distance in a radial direction of the optical disc;

changing the movement distance in accordance with the radial position of the optical pickup on the optical disc.

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15. An optical disc including a heat-sensitive layer in which an image is formed by discoloring the heat-sensitive layer, the image being formed by the steps of:

25 rotating the optical disc at substantially constant speed;

applying a laser beam of substantially constant power to the optical disc by an optical pickup;

moving the optical pickup in a radial direction of the

optical disc each time when the optical disc is rotated with a number of rotations;

changing an irradiation position of the laser beam so that, when the optical disc is rotated with the number of  
5 rotations, the laser beam is moved along a different laser irradiation locus on the optical disc in each rotation; and

changing the number of rotations in accordance with the radial in accordance with the radial position of the optical pickup on the optical disc.

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